

### **Abstract**

The invention relates a method for supplying highly pure oxygen by cryogenic distillation of air from an installation comprising a first (1) and a second (2) air separating apparatus. According to the invention: the first air separating apparatus has a medium pressure column, a low pressure column thermally connected to the medium pressure column, and has a mixing column in which air to be distilled is fed to the medium pressure column; liquids enriched with oxygen and with nitrogen are fed from the medium pressure column to the low pressure column; according to a first operation of the apparatus, a flow of oxygen-enriched liquid coming from the low pressure column is fed to the top of the mixing column; a flow of low-purity oxygen is drawn off from the top of the mixing column and at least a portion (3) thereof is fed to a first consumer unit (5), and; the second apparatus (2) supplies highly pure oxygen (8) to a second consumer unit (9), whereas according to a second operation, the flow of low-purity oxygen drawn off from the top of the mixing column is reduced in the first apparatus; a flow of highly pure oxygen is drawn off from the vessel of the low pressure column of the first apparatus and is fed (11) to at least the second consumer unit (9), and; the second apparatus (2) does not supply highly pure oxygen to the second consumer unit.